

AMENDMENTS TO THE SPECIFICATION:

Please amend the specification as follows:

Page 1, please replace original paragraph [001] with the following:

The present invention generally relates to a computer system, and more particularly relates to methods for managing a computer system with a plurality of computers (blades), in that blades ~~blade~~ are added or removed while operating an application.

Page 2, please replace original paragraph [007] with the following:

The invention is summarized as a method for managing a computer system, the system operating with a plurality of blades. The method comprises ~~comprising~~: detecting the presence of a new blade in the computer system; installing (e.g., booting) an operating system on the new blade; configuring the operating system; and copying a service that is running on an earlier detected blade to the new blade. The term "blade" stands for blades physically introduced into the system (e.g., by mechanically inserting a blade into the chassis) and also for blades that are logically introduced into the system (e.g., by allocating an IP-address or otherwise activating the blade). Advantageously, installing the operating system is performed by accessing a mass storage (e.g., so-called "filer") that is part of the system.

Page 2, please replace original paragraph [010] with the following:

Advantageously, between the detecting and installing steps, ~~step~~ the following is performed: monitoring system ~~systems~~ performance and continuing with installing upon reaching a predefined threshold of a measurement value. In the context of the present invention, reaching the threshold comprises detecting ~~to detect~~ error situations, bottlenecks, software failure, and hardware failure. This approach has the advantage that a reserve blade is plugged in and stands by.

Page 2, please replace original paragraph [013] with the following:

Advantageously, monitoring is performed by monitoring processes (watchdog) that operate consecutively for adjacent blades. "Adjacent" blades are typically physical, ~~"adjacent" here both in terms of physically being neighbors that~~ and logically belong belonging together.

Pages 2-3, please replace original paragraph [016] with the following:

Advantageously, ~~the processing times are related to processing times for incoming telephone calls, a call rate (e.g., number of calls per time period), in case~~ when the computer system operates an application for ~~with~~ telephone call centre activity (e.g., part of customer relations ~~relation~~ software), the processing times are related to the call rate and processing times for incoming telephone calls.

Page 3, please replace original paragraph [017] with the following:

Advantageously, computer instructions for performing the detection steps ~~are provided to perform the steps detecting~~ are part of services that are running on the computer system.

Page 3, please replace original paragraph [018] with the following:

Advantageously, computer instructions for performing ~~are provided to perform the steps the detecting and to copying steps~~ are performed according to criteria in the service that is running on the earlier detected blade.

Page 3, please replace original paragraph [019] with the following:

Advantageously, copying the service comprises copying ~~to copy~~ data that is ~~access~~ accessed from the main memory of the earlier detected blade to the main memory of the new blade.

Page 3, please replace original paragraph [020] with the following:

Advantageously, copying the service comprises restarting ~~to restart~~ the service, wherein the service's executable instructions ~~of the service~~ are loaded from [[a]] central

storage, and wherein an image of the service's process context ~~of the service~~ is transferred to the new blade.

Page 3, please replace original paragraph [021] with the following:

Advantageously, copying the service comprises modifying ~~to modify~~ the version of the service. Advantageously, installing the operating system comprises modifying ~~to modify~~ the system. It is an advantage that ~~copying the services or installing the operating system is accompanied by using~~ the latest versions of services and operating systems are used when copying the services or installing the operating systems. In the context of a business application, the application gradually moves to updated software (both OS and services). Errors can be detected (cf. testing feature). From the view-point of the operator of the system (e.g., the organization that runs the business), the application is constantly renewing without the need of interrupting the application for upgrade purposes. The risk of failure (for the complete application or for its services) is reduced.

Page 3, please replace original paragraph [022] with the following:

Advantageously, in one embodiment where the method is performed for at least 3 blades, the method further comprises the ~~for~~ subsequent execution of a controller service, an engine service, and a monitor service, the services belonging to the same business application. This relates also to cyclically shifting the services.

Page 3, please replace original paragraph [023] with the following:

Advantageously, the method is controlled by a controller residing on at least one blade, wherein the controller performs further functions selected from the group of: testing the copy of the service on the new blade and modifying the execution of the service on the earlier detected blade ~~if in case~~ the copy of the service operates successfully.

Page 3, please replace original paragraph [024] with the following:

Advantageously, modifying comprises stopping ~~to stop~~ the service on the earlier detected blade. It is an advantage to stop the service only if testing is successful.

Pages 3-4, please replace original paragraph [026] with the following:

Advantageously, shifting and re-installing is repeated cyclically for all computers in the groups, thereby keeping the number of computers that are ~~with the attribute~~ re-installing the operating system smaller than the number of computers that are not re-installing the ~~with the attribute re-installed~~ operating systems. For example, in the repetition in a group of first and second computers, the service is shifted back to the first computer and the system is re-installed on the second computer.

Page 4, please replace original paragraph [028] with the following:

Advantageously, in one embodiment, services ~~step-assigning is performed for~~ ~~services~~ of a first class (e.g., controller services) are assigned to a first group of computers and ~~[[for]]~~ services of a second class (e.g., monitoring services) are assigned to a second group of computers. Using specialized computers for specialized service classes is convenient. The services in the service classes usually have similar requirements in terms of software environment (operating system configuration). When re-installing the operating system, the specialized configuration can be taken over. In an exemplary application, there is a first group of computers for the first class of services "engine service" (e.g., search engine with cache), for the second class of services "monitor service" (e.g., watchdog to supervise engines), for the third class of services "controller" (e.g., services that organized data exchange between services). In other words, there is a first cycle (e.g., ring of computers) for the first class, a second cycle for the second class and a third cycle for the third class. It is also possible~~[[.]]~~ to circulate the services independent from its class. There could be a super-cycle for circulating ~~[[in]]~~ the services of all classes ~~circulate~~.

Page 5, please replace original paragraph [047] with the following:

The present invention may be practiced on a computer system with a plurality of computers. A general description of such a system appears at the end of the specification. The invention is advantageous for use in a computer system comprised

~~of in that the~~ computers are located on single-printed circuit boards. The technology of such systems is known, for example, under the term "blade server technology" or "rack-mounted technology".

Page 19, please replace original paragraph [130] with the following:

While the invention has been described in terms of particular methods, programs and systems, those of skill in the art will understand based on the description herein that it is not limited merely to such particulars and that the full scope of the invention is properly determined by the claims that follow. While the explanation conveniently uses assumptions, such as by referring to a "fast cache system", persons of skill in the art can apply the invention ~~to for other applications application~~ as well.